

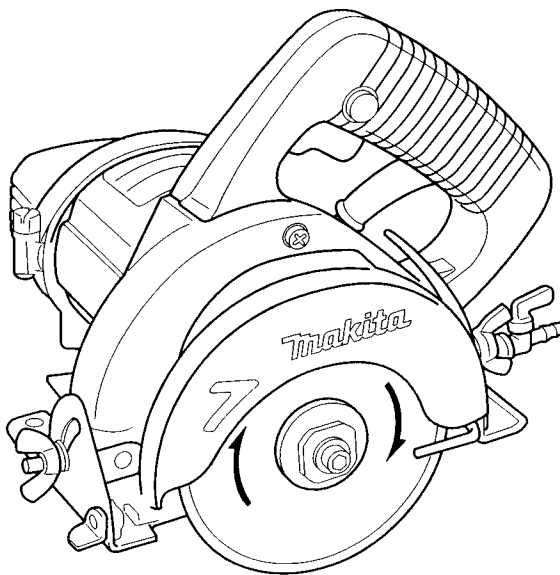
**Makita**

アメリカ

# Tile Cutter

**110 mm (4-3/8") MODEL 4101RH**

## INSTRUCTION MANUAL



### SPECIFICATIONS

Wheel diameter	Max. cutting capacities		No load speed (RPM)	Overall length	Net weight
	90°	45°			
110 mm (4-3/8")	34 mm (1-3/8")	21 mm (13/16")	12,000	236 mm (9-1/4")	3.0 kg (6.6 lbs)

\* Manufacturer reserves the right to change specifications without notice.

\* Note: Specifications may differ from country to country.

WARNING: For your personal safety, READ and UNDERSTAND before using.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

# GENERAL SAFETY RULES

## (For All Tools)

**WARNING!** Read and understand all instructions. Failure to follow all instructions listed below, may result in electric shock, fire and/or serious personal injury.


## SAVE THESE INSTRUCTIONS

### READ ALL INSTRUCTIONS.

#### WORK AREA

1. **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
2. **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.
3. **Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control.

#### ELECTRICAL SAFETY

4. **Double Insulated tools are equipped with a polarized plug (one blade is wider than the other.) This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way. Double insulation  eliminates the need for the three wire grounded power cord and grounded power supply system.**
5. **Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is grounded.
6. **Don't expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
7. **Do not abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.** Damaged cords increase the risk of electric shock.
8. **When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W."** These cords are rated for outdoor use and reduce the risk of electric shock.

#### PERSONAL SAFETY

9. **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
10. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.

11. **Avoid accidental starting. Be sure switch is off before plugging in.** Carrying tools with your finger on the switch or plugging in tools that have the switch on invites accidents.
12. **Remove adjusting keys or switches before turning the tool on.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.
13. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.
14. **Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

## **TOOL USE AND CARE**

15. **Use clamps or other practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
16. **Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
17. **Do not use tool if switch does not turn it on or off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.
18. **Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.
19. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
20. **Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools, with sharp cutting edges are less likely to bind and are easier to control.
21. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tools operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
22. **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool, may become hazardous when used on another tool.

## **SERVICE**

23. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
24. **When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow Maintenance Instructions may create a risk of electric shock or injury.

## ***Specific Safety Rules***

1. **DANGER! Keep hands away from cutting area and blade. Keep your second hand on auxiliary handle, or motor housing.** If both hands are holding the saw, they cannot be cut by the blade.

**Keep your body positioned to either side of the saw blade, but not in line with the saw blade.** KICKBACK could cause the saw to jump backwards. (See "Causes and Operator Prevention of Kickback")

**Do not reach underneath the work.** Don't remove to remove cut material when blade is moving.

**CAUTION:** Blades coast after turn off.

2. **NEVER hold piece being cut in your hands or across your leg.** It is important to support the work properly to minimize body exposure, blade binding, or loss of control.
3. **Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord.** Contact with a "live" wire will also make exposed metal parts of the tool "live" and shock the operator.
4. **When ripping always use a rip fence or straight edge guide.** This improves the accuracy of cut and reduces the chance for blade binding.
5. **Always use blades with correct size and shape (diamond vs. round) arbor holes.** Blades that do not match the mounting hardware of the saw will run eccentrically, causing loss of control.
6. **Never use damaged or incorrect blade washers or bolts.** The blade washers and bolt were specially designed for your saw, for optimum performance and safety or operation.
7. **Causes and Operator Prevention of Kickback:**

*Kickback is a sudden reaction to a pinched, bound or misaligned saw blade, causing an uncontrolled saw to lift up and out of the workpiece toward the operator.*

*When the blade is pinched or bound tightly by the kerf closing down, the blade stalls and the motor reaction drives the unit rapidly back toward the operator.*

*If the blade becomes twisted or misaligned in the cut, the teeth at the back edge of the blade can dig into the top surface of the material being cut causing the blade to climb out of the kerf and jump back toward operator.*

*Kickback is the result of tool misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below.*

**Maintain a firm grip with both hands on the saw and position your body and arm to allow you to resist KICKBACK forces.** KICKBACK forces can be controlled by the operator, if proper precautions are taken.

**When blade is binding, or when interrupting a cut for any reason, release the trigger and hold the saw motionless in the material until the blade comes to a complete stop. Never attempt to remove the saw from the work or pull the saw backward while the blade is in motion or KICKBACK may occur.**

Investigate and take corrective actions to eliminate the cause of blade binding.

**When restarting a saw in the workpiece, center the saw blade in the kerf and check that saw teeth are not engaged into the material.** If saw blade is binding, it may walk up or KICKBACK from the workpiece as the saw is restarted.

**Support large panels to minimize the risk of blade pinching and KICKBACK.** Large panels tend to sag under their own weight. Supports must be placed under the panel on both sides, near the line of cut and near the edge of the panel as shown in Fig. 1.

To minimize the risk of blade pinching and kickback. When cutting operation requires the resting of the saw on the work piece, the saw shall be rested on the larger portion and the smaller piece cut off.

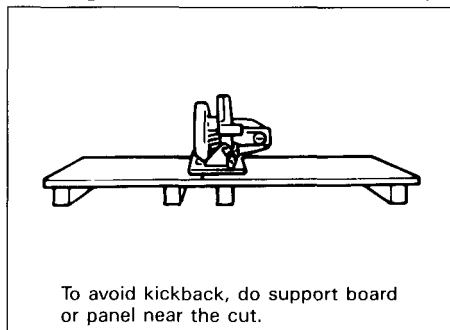


Fig. 1

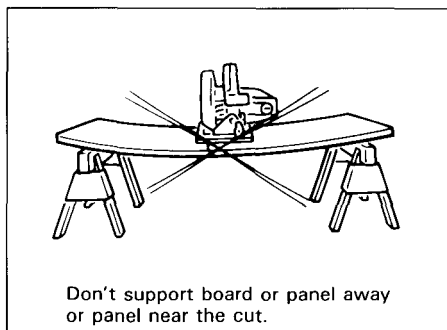


Fig. 2

**Do not use dull or damaged blade.** Unsharpened or improperly set blades produce narrow kerf causing excessive friction, blade binding and KICKBACK.

**Blade depth and bevel adjusting locking levers must be tight and secure before making cut.** If blade adjustment shifts while cutting, it may cause binding and KICKBACK.

**Use extra caution when making a "Pocket Cut" into existing walls or other blind areas.** The protruding blade may cut objects that can cause KICKBACK.

**NEVER place your hand or fingers behind the saw.** If kickback occurs, the saw could easily jump backwards over your hand, possibly causing severe injury.

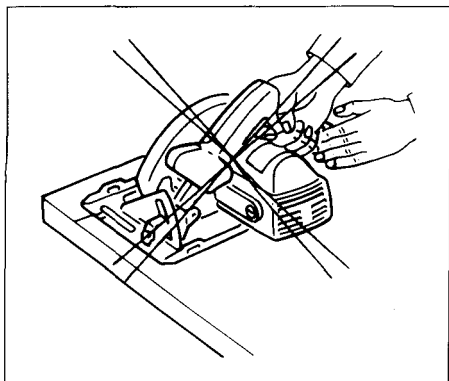


Fig. 3

8. **Adjustments.** Before cutting be sure depth and bevel adjustments are tight.
9. **When operating the saw, keep the cord away from the cutting area and position it so that it will not be caught on the workpiece during the cutting operation.**  
Operate with proper hand support, proper workpiece support, and supply cord routing away from the work area.

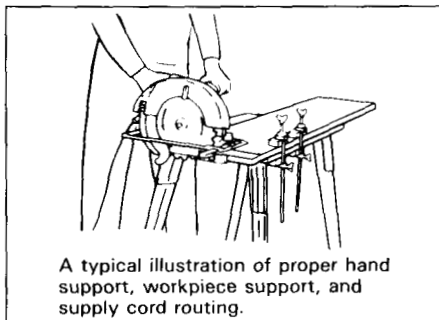


Fig. 4

**WARNING:**

It is important to support the workpiece properly and to hold the saw firmly to prevent loss of control which could cause personal injury. Fig. 4 illustrates typical hand support of the saw.

10. Place the wider portion of the saw base on that part of the workpiece which is solidly supported, not on the section that will fall off when the cut is made. As examples, Fig. 5 illustrates the **RIGHT** way to cut off the end of a board, and Fig. 6 the **WRONG** way. If the workpiece is short or small, clamp it down. **DON'T TRY TO HOLD SHORT PLACES BY HAND!**

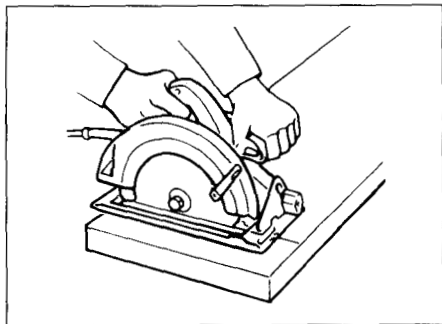


Fig. 5

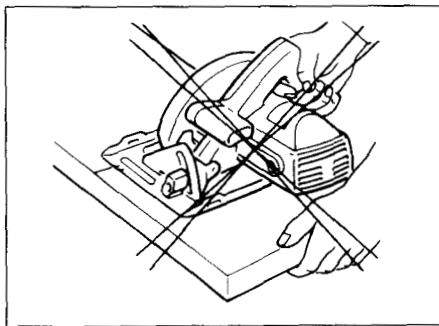


Fig. 6

11. **Never attempt to saw with the circular saw held upside down in a vise.** This is extremely dangerous and can lead to serious accidents.

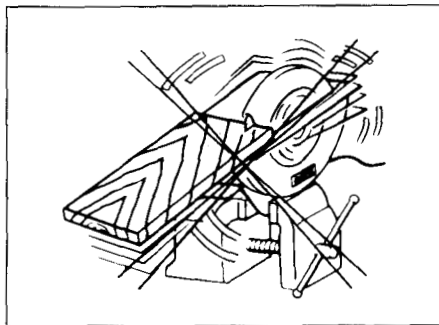









Fig. 7

12. If the plug or receptacle does get wet, **DON'T** unplug the cord. Disconnect the fuse or circuit breaker that supplies power to the tool. Then unplug and examine for presence of water in the receptacle.
13. **WARNING** — To reduce the risk of electrocution when using an extension cord, keep **ALL** connections dry and off the ground.
14. Ground Fault Circuit Interrupter (GFCI) protection should be provided on the circuit(s) or outlet(s) to be used for the tool. Receptacles are available having built-in GFCI protection and may be used for this measure of safety.

**SAVE THESE INSTRUCTIONS.**

# SYMBOLS

The followings show the symbols used for tool.

V	..... volts
A	..... amperes
Hz	..... hertz
kg	..... kilograms
h	..... hours
min	..... minutes
s	..... seconds
	..... alternating current
	..... direct current
$n_0$	..... no load speed
	..... alternating or direct current
	..... Class II Construction
	..... splash-proof construction
	..... watertight construction
.../min	..... revolutions or reciprocation per minute
	..... number of blow

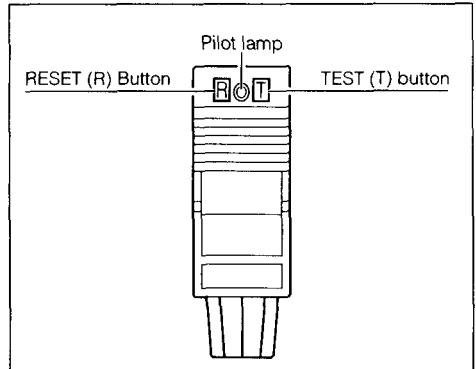
## Functional Description

### Ground Fault Circuit Interrupter

Connect the tool to a power supply and test the Ground Fault Circuit Interrupter (GFCI) before using the tool. Push the RESET (R) button and confirm that the pilot lamp lights. Push the TEST (T) button and confirm that the pilot lamp goes out. Push the RESET (R) button again to use the tool.

#### WARNING:

Do not use the tool if the pilot lamp does not go out when the TEST (T) button is pushed.



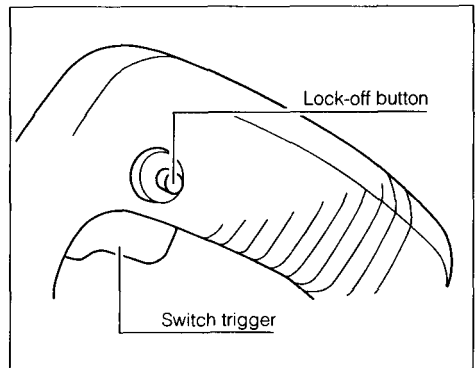
### Switch action

#### CAUTION:

Before plugging in the tool, always check to see that the switch trigger actuates properly and returns to the "OFF" position when released.

To prevent the switch trigger from being accidentally pulled, a lock-off button is provided.

To start the tool, depress the lock-off button and pull the switch trigger. Release the switch trigger to stop.



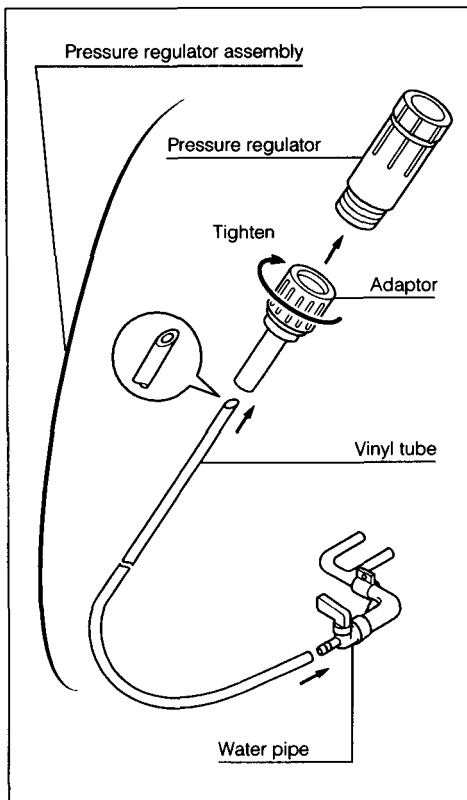
## Pressure regulator assembly

Use the pressure regulator assembly to connect to water source. It consists of the following parts.

Part name	Description
Pressure regulator	<ul style="list-style-type: none"><li>• Preset at about 15 psi.</li><li>• 3/4" female hose thread (inlet) x 3/4" male hose thread (outlet)</li><li>• Flow capacity: Maximum 390 GPH, minimum 10 GPH</li><li>• Inlet pressures: Maximum 100 psi, minimum 25 psi</li></ul>
Adaptor	<ul style="list-style-type: none"><li>• For connecting 1/4" vinyl tube to a faucet.</li><li>• 3/4" swivel x 1/4" adaptor</li></ul>
Vinyl tube	<ul style="list-style-type: none"><li>• 1/4" in outer diameter x 11/16" in inner diameter x 18' in length</li></ul>
Water pipe	<ul style="list-style-type: none"><li>• For adjusting the amount of water flow</li></ul>

Assemble the above parts hand tight as follows.

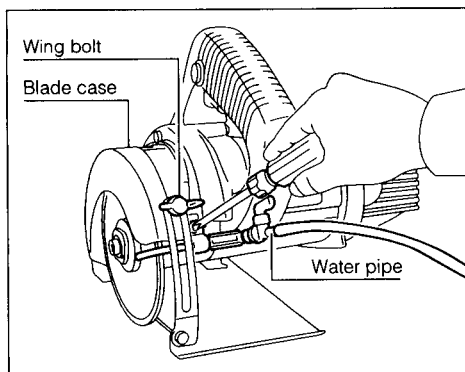
- Cut the vinyl tube at an angle for easier insertion. Push the end of the vinyl tube into the end of the adaptor using a combination pushing and twisting motion.
- Screw the pressure regulator tight on the adaptor.
- Connect the vinyl tube firmly to the water pipe.



## Assembly

### Installing water pipe

Unplug the tool. Loosen the wing bolt on the depth guide and move the base down. Install the water pipe on the blade case using the screw.



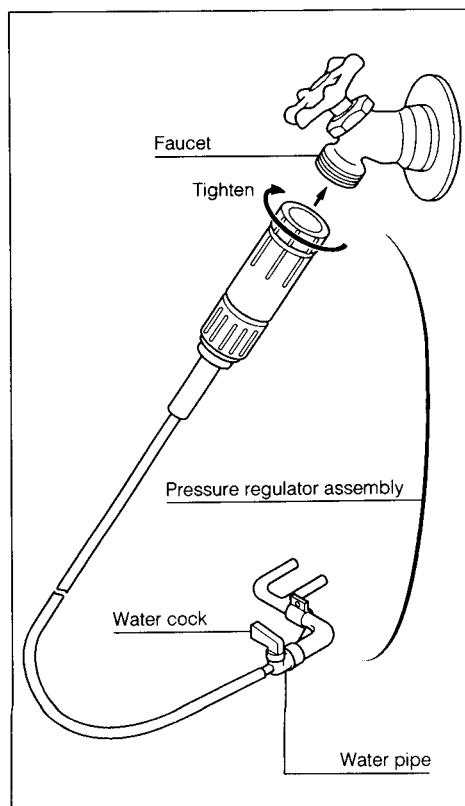
Screw the pressure regulator tight on a faucet.

Adjust the amount of water flow by simply adjusting the water cock.

#### CAUTION:

Do not connect the adaptor directly to a faucet.

If you do so, the vinyl tube may come off the water pipe during operation.

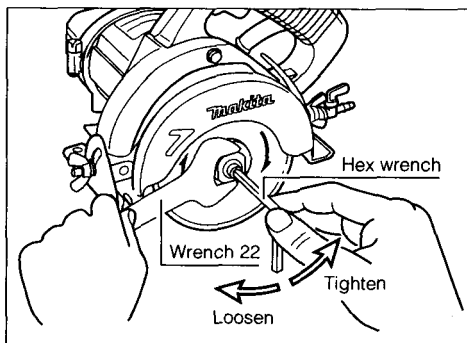


## Removing or installing diamond wheel

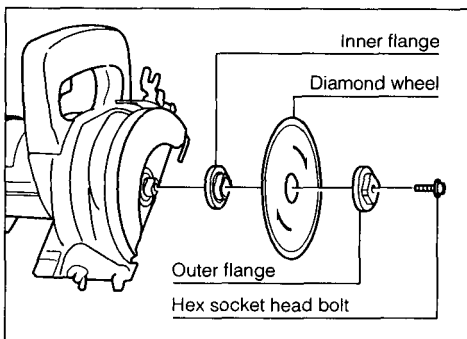
### CAUTION:

Always be sure that the tool is switched off and unplugged before installing or removing the wheel.

Hold the outer flange with the wrench and loosen the hex socket head bolt clockwise direction with the hex wrench. Then remove the hex socket head bolt, and outer flange.



Install the diamond wheel, outer flange and hex socket head bolt onto the spindle. Hold the outer flange with the wrench and tighten the hex bolt in counterclockwise direction with the hex wrench. **BE SURE TO TIGHTEN THE HEX SOCKET HEAD BOLT SECURELY.**

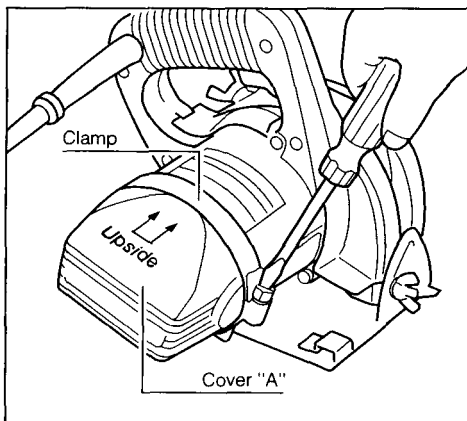


### CAUTION:

Use only the Makita wrench and hex wrench to install or remove the wheel.

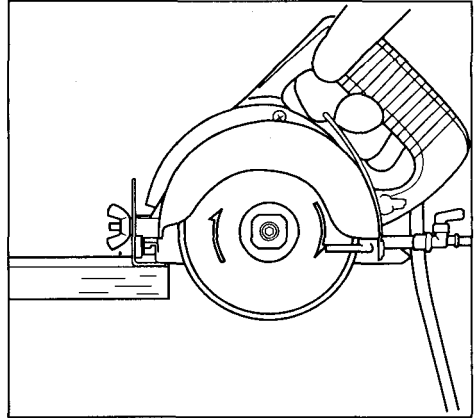
## Installing cover "A"

Install the cover "A" on the tool so that its side with "Upside" mark faces upward.



## Operation

Adjust the amount of water flow. Hold the tool firmly. Set the base plate on the workpiece to be cut without the wheel making any contact. Then turn the tool on and wait until the wheel attains full speed. Now simply move the tool forward over the workpiece surface, keeping it flat and advancing smoothly until the cutting is completed. Keep your cutting line straight and your speed of advance uniform.



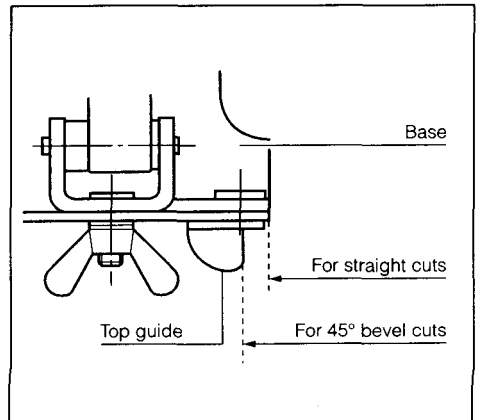
## CAUTION:

- THIS TOOL SHOULD ONLY BE USED ON HORIZONTAL SURFACES.
- Be sure to move the tool forward in a straight line and gently. Forcing and exerting excessive pressure or allowing the wheel to bend, pinch or twist in the cut can cause overheating of the motor and dangerous kickback of the tool.
- Since excessive cutting may cause overload of the motor, the depth of cut should not be more than 20 mm (13/16") at a pass. When you wish to cut more than 20 mm (13/16") deep, make a couple of passes with progressively deeper settings.

## Sighting

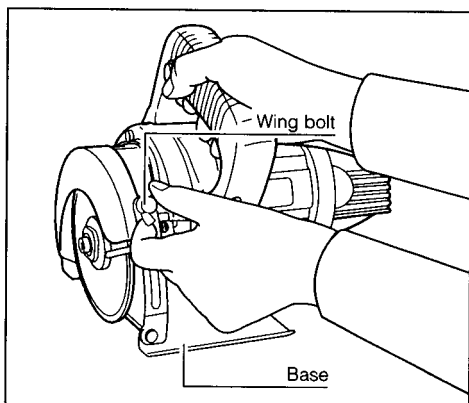
For straight cuts, align the left edge of the base with your cutting line on the workpiece.

For 45° bevel cuts, align the left edge of the top guide with it.



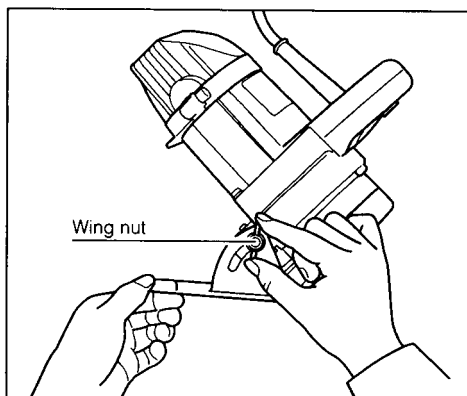
### Adjusting depth of cut

Loosen the wing bolt on the depth guide and move the base up or down. At the desired depth of cut, secure the base by tightening the wing bolt.

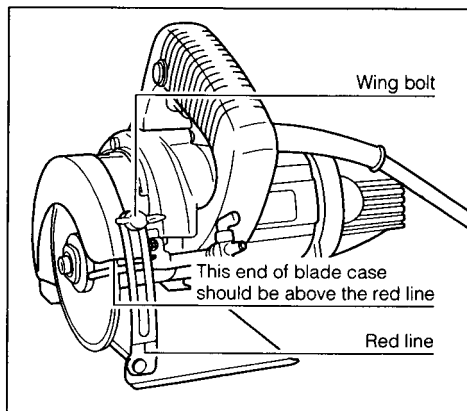


### Adjusting bevel angle

Loosen the wing nut on the bevel scale plate on the front of the base. Set for the desired angle (0 – 45°) by tilting accordingly, then tighten the wing nut securely.



Loosen the wing bolt on the depth guide and move the base so that the end of the blade case is above the red line on the depth guide. Then tighten the wing bolt to secure the base.



#### NOTE:

If the end of the blade case is under the red line on the depth guide, the outer flange may hit the workpiece when you perform the bevel cut.

## MAINTENANCE

### CAUTION:

Always be sure that the tool is switched off and unplugged before attempting to perform inspection or maintenance.

### After use

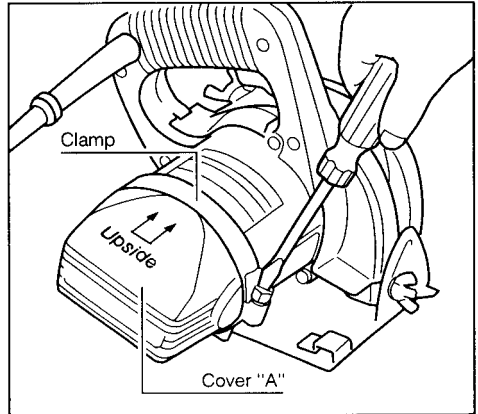
Blow away dust from the inside of the tool by running the tool at an idle for a while.

Brush off accumulation of dust on the base.

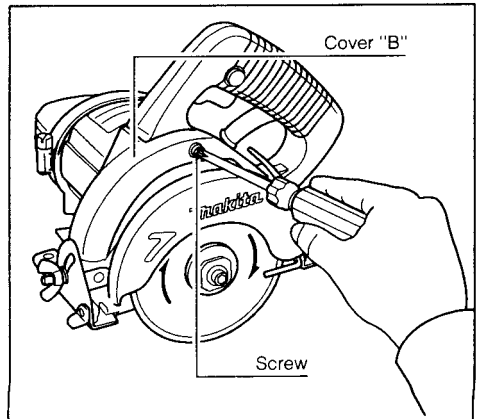
Accumulation of dust in the motor or on the base may cause a malfunction of the tool.

### Cleaning covers

When accumulation of dust on the cover "A" looks excessive, loosen the clamp and remove the cover "A". Wash off accumulation of dust inside the cover "A" and wipe it. Then install the cover "A" on the tool so that its side with "Upside ↑↑" mark faces upward. Push the cover "A" toward the motor as far as it will go and secure it by tightening the clamp.



When changing the wheel, clean the cover "B" at the same time. Loosen the screw securing the cover "B" and remove the cover "B". Wash off accumulation of dust inside the cover "B" and wipe it. Then attach the cover "B" to the tool by tightening the screw. Accumulation of dust inside the covers may cause a malfunction of the tool.

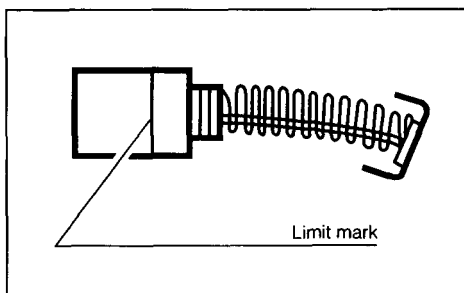


### CAUTION:

When using the tool, be sure to attach the covers "A" and "B".

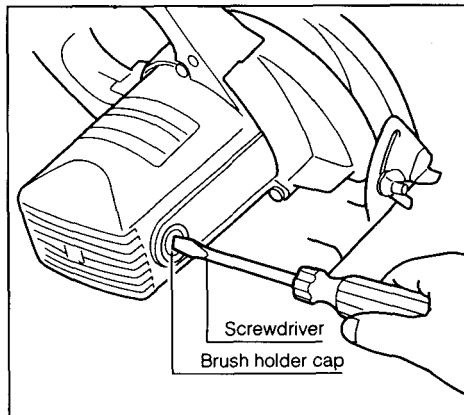
### Replacing carbon brushes

Remove and check the carbon brushes regularly. Replace when they wear down to the limit mark. Keep the carbon brushes clean and free to slip in the holders. Both carbon brushes should be replaced at the same time. Use only identical carbon brushes.



First, remove the cover "A".

Use a screwdriver to remove the brush holder caps. Take out the worn carbon brushes, insert the new ones and secure the brush holder caps.



### Dressing diamond wheel

If the cutting action of the diamond wheel begins to diminish, use an old discarded coarse grit bench grinder wheel or concrete block to dress the diamond wheel. To do this, tightly secure the bench grinder wheel or concrete block and cut in it.

To maintain product SAFETY and RELIABILITY, repairs, any other maintenance or adjustment should be performed by Makita Authorized or Factory Service Centers, always using Makita replacement parts.

## ACCESSORIES

### CAUTION:

These accessories or attachments are recommended for use with your Makita tool specified in this manual. The use of any other accessories or attachments might present a risk of injury to persons. The accessories or attachments should be used only in the proper and intended manner.

- **Hex wrench 5**

Part No. 783203-8



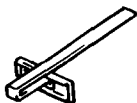
- **Wrench 22**

Part No. 781011-1



- **Guide rule**

Part No. 164095-8

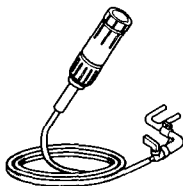


- **Diamond wheel**

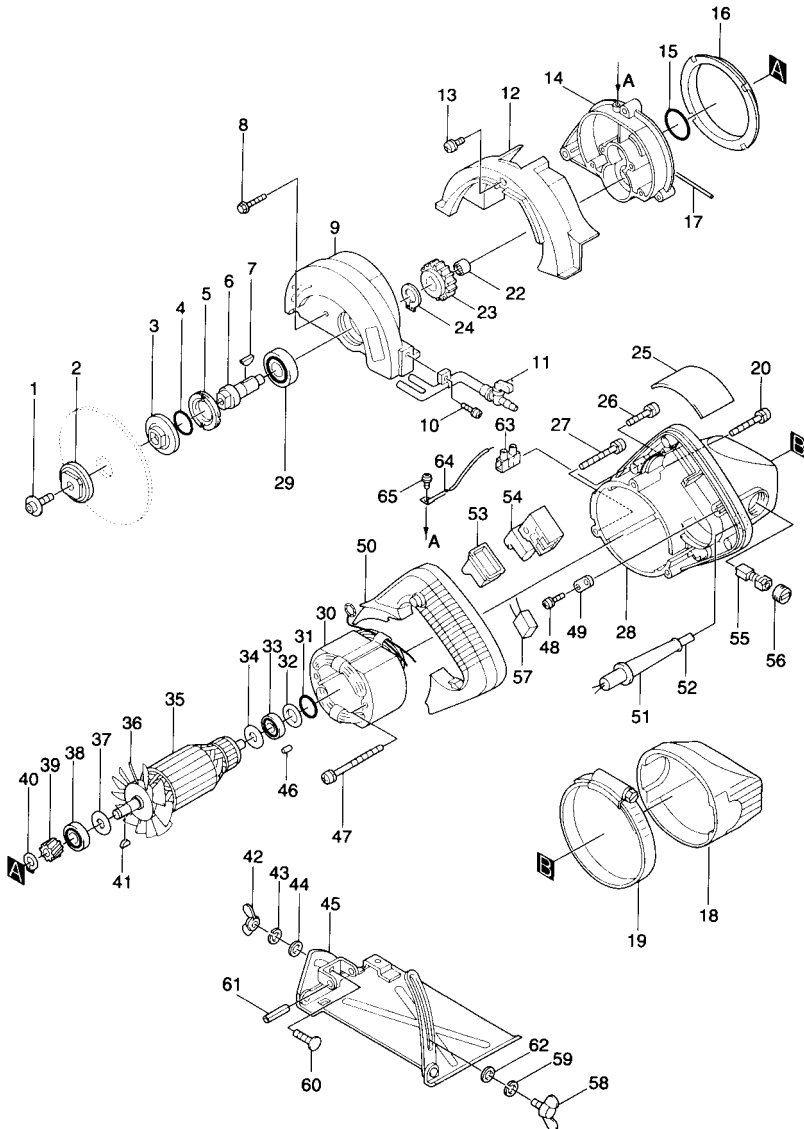
For all stone and masonry materials, tiles etc.



- **Pressure regulator assembly**



# 110 mm (4-3/8") CUTTER Model 4101RH



Note: The switch and other part configurations may differ from country to country.

ITEM NO.	NO. USED	DESCRIPTION	ITEM NO.	NO. USED	DESCRIPTION
<u>MACHINE</u>			<u>MACHINE</u>		
1	1	Hex. Socket Head Bolt M6x20	34	1	Insulation Washer
2	1	Outer Flange 36	35	1	ARMATURE ASSEMBLY
3	1	Inner Flange 36			(With Item 33, 34 & 36 — 38)
4	1	O Ring 18	36	1	Fan 68
5	1	Bearing Retainer 19—33	37	1	Flat Washer 9
6	1	Spindle	38	1	Ball Bearing 629LLB
7	1	Woodruff Key 4	39	1	Helical Gear 19
8	4	Hex. Bolt M4x25	40	1	Retaining Ring S—8
9	1	Blade Case Complete	41	1	Woodruff Key 3
10	1	Pan Head Screw M4x14	42	1	Wing Nut M6
11	1	Pipe Complete	43	1	Spring Washer 6
12	1	Cover B	44	1	Flat Washer 6
13	1	Pan Head Screw M5x8	45	1	Base
14	1	Gear Housing Complete (With Item 15)	46	1	Rubber Pin 4
15	1	O Ring 26	47	2	Pan Head Screw M5x65
16	1	Baffle Plate	48	2	Pan Head Screw M4x18
17	1	Seal Rubber	49	1	Strain Relief
18	1	Cover A	50	1	Handle Cover Complete
19	1	Clamp 90	51	1	Cord Guard
20	1	Pan Head Screw M5x35	52	1	Cord
22	1	Needle Bearing 810	53	1	Dust Cover
23	1	Helical Gear 42	54	1	Switch
24	1	Retaining Ring S—12	55	2	Carbon Brush
25	1	Name Plate	56	2	Holder Cap
26	4	Pan Head Screw M4x25	58	1	Wing Bolt M6x10
27	2	Pan Head Screw M5x40	59	1	Spring Washer 6
28	1	Motor Housing Complete (With Item 46)	60	1	Cap Square Neck Bolt M6x20
29	1	Ball Bearing 6201DDW	61	1	Spring Pin 6—32
30	1	FIELD ASSEMBLY	62	1	Flat Washer 6
31	1	O Ring 18	63	1	Terminal Block 1P
32	1	Flat Washer 14	64	1	Lead Unit
33	1	Ball Bearing 608LB	65	1	Pan Head Screw M4x8

Note: The switch and other part specifications may differ from country to country.

## MAKITA LIMITED ONE YEAR WARRANTY

### Warranty Policy

Every Makita tool is thoroughly inspected and tested before leaving the factory. It is warranted to be free of defects from workmanship and materials for the period of ONE YEAR from the date of original purchase. Should any trouble develop during this one-year period, return the COMPLETE tool, freight prepaid, to one of Makita's Factory or Authorized Service Centers. If inspection shows the trouble is caused by defective workmanship or material, Makita will repair (or at our option, replace) without charge.

This Warranty does not apply where:

- repairs have been made or attempted by others;
- repairs are required because of normal wear and tear;
- The tool has been abused, misused or improperly maintained;
- alterations have been made to the tool.

IN NO EVENT SHALL MAKITA BE LIABLE FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES FROM THE SALE OR USE OF THE PRODUCT. THIS DISCLAIMER APPLIES BOTH DURING AND AFTER THE TERM OF THIS WARRANTY.

MAKITA DISCLAIMS LIABILITY FOR ANY IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF "MERCHANTABILITY" AND "FITNESS FOR A SPECIFIC PURPOSE," AFTER THE ONE-YEAR TERM OF THIS WARRANTY.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

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